

BIOGRAPHICAL SKETCH

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| FULL NAME: Jenniffer Alexandra Angulo Troncoso | CURRENT POSITION |
| PERSONAL INFORMATION RUT: 15.962.364-5 Date of Birth: January 16, 1985 Nationality: Chilean Marital Status: Single Address: Av. Vicuña Mackenna 7735, Altavista Vicente Valdés B, apartment 1506. Santiago. Country: Chile Phone: +56 9 46633658 / +56 223548182 Contact Email: jenniffer.at@gmail.com | Assistant Professor. Pontificia Universidad Católica de Chile. Facultad de Medicina y Facultad de Ciencias Biológicas. |

| EDUCATION/TRAINING | | | |
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| INSTITUTION AND LOCATION | DEGREE | Year | FIELD OF STUDY |
| Universidad de Santiago de Chile. Santiago, Chile. | Biochemist | 2008 | Biochemistry |
| Universidad de Santiago de Chile. Santiago, Chile. | Doctor in Microbiology | 2014 | Microbiology, |
| Millennium Institute of Immunology and Immunotherapy. Pontificia Universidad Católica de Chile. Santiago, Chile. | Postdoctoral researcher | 2016 | Molecular Virology. |
| Laboratoire de Cristallographie et RMN Biologiques. Université Paris Descartes. Paris, France. | Not applicable | 2015- 2016 | Molecular Virology, Infectious diseases. RNA structure, |
| CONICYT PIA ACT 1408. Molecular Virology Laboratory. Pontificia Universidad Católica de Chile. Santiago, Chile. | Postdoctoral researcher | 2016- 2018 | Initiation of translation. |
| Infectious Disease and Pediatric Immunology Department. School of Medicine, Pontificia Universidad Católica de Chile. | Researcher Assistant | 2019-up to date | Host-pathogen interaction in viral models. |
| Assistant Professor. Facultad de Odontología, Universidad Finis Terrae. | Assistant Professor | 2022-2024 | Basic Sciences |

A. RESEARCH EXPERIENCE (in chronological order)

- 2006 Instituto de Investigaciones Agropecuarias (INIA), La Platina. Santiago, Chile
“Análisis de genotipo de plantas frutales y ornamentales mediante marcadores moleculares SSR y RAPD”.
- 2007 Diagnostec S.A. Santiago, Chile. “Desarrollo y optimización de protocolos de PCR múltiples *in silico* para análisis genéticos mediante la utilización de marcadores microsatélites tipo II en salmón”.
- 2007-2008 Laboratory of Molecular Ecology, Facultad de Química y Biología. Universidad de Santiago de Chile. “Búsqueda y validación de Polimorfismos de sustitución simple (SNPs) en genes candidatos relacionados con la respuesta inmune en una población chilena de Salmón del Atlántico (*Salmo salar*)”.
- 2007-2008 Laboratory of Molecular Ecology, Facultad de Química y Biología. Universidad de Santiago de Chile. “Desarrollo de nuevas herramientas de análisis para evaluar el estado inmunológico de salmónidos”.
- 2008-2009 Laboratory of Molecular Ecology, Facultad de Química y Biología. Universidad de Santiago de Chile. “Genómica funcional en Salmónidos”.
- 2009-2013 Laboratory of Molecular Virology, Facultad de Medicina, Centro de Investigaciones Médicas, Pontificia Universidad Católica de Chile. “Polimorfismos genéticos dentro del locus IL28B: Hacia una terapia personalizada contra HCV”.
- 2009-2014 Laboratory of Molecular Virology, Facultad de Medicina, Centro de Investigaciones Médicas. Pontificia Universidad Católica de Chile. “Relación virus-hospedero durante la infección crónica con HCV; Estudio de polimorfismos en IL28B y su implicancia en la replicación extrahepática de HCV”.
- 2010-2014 Laboratory of Molecular Virology, Facultad de Medicina, Centro de Investigaciones Médicas. Pontificia Universidad Católica de Chile. “Inhibición de la síntesis de proteínas de HCV por moléculas que se unen al IRES viral”.
- 2013-2016 Laboratory of Molecular Virology, Facultad de Medicina, Centro de Investigaciones Médicas. Pontificia Universidad Católica de Chile. “Relación virus-hospedero en la infección con Hantavirus Andes”.

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| 2016-2018 | Laboratory of Molecular Virology, Facultad de Medicina, Centro de Investigaciones Médicas. Pontificia Universidad Católica de Chile. “Estudio del Mecanismo de inicio de la traducción del RNA mensajero del segment S (SmRNA) del virus Andes”. |
| 2016-2020 | Laboratory of Infectology and Molecular Virology, Facultad de Medicina, Centro de Investigaciones Médicas. Pontificia Universidad Católica de Chile. “Viral quasispecies, oral host immune and constitutive factors in Andes virus infected cases and exposed subjects: Role in infection and transmission”. |
| 2021-up to date | Laboratory of Infectology and Molecular Virology, Facultad de Medicina, Centro de Investigaciones Médicas. Pontificia Universidad Católica de Chile. “New predictors of ANDV person-to-person transmission: when a household contact becomes an index case”. |
| 2023-up to date | Laboratory of Infectology and Molecular Virology, Facultad de Medicina, Centro de Investigaciones Médicas. Pontificia Universidad Católica de Chile. “Elucidating the genetic diversity of <i>Andes Orthohantavirus</i> : impact of nonsynonymous single nucleotide variations on viral entry, gene expression, and innate immune evasion”. |

B. PROJECT EXPERIENCE (in chronological order)

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| 2007-2008 | DGT 4071031 DICYT “Desarrollo de nuevas herramientas de análisis para evaluar el estado inmunológico de salmónidos”. Research Assistant. Universidad de Santiago de Chile. Supervisor: Profs. Rodrigo Vidal and Mónica Imarai |
| 2007-2008 | INNOVA-CORFO 05CT6PPT-10 “Functional Genomics in Salmonids”. Undergraduate student. Universidad de Santiago de Chile. Supervisor: Prof. Rodrigo Vidal |
| 2008-2009 | INNOVA-CORFO 05CT6PPT-10 “Functional Genomics in Salmonids”. Biochemist. Universidad de Santiago de Chile. Supervisor: Prof. Rodrigo Vidal |
| 2009-2010 | FONDECYT 1080323 “Rol de la replicación extrahepática del virus de la hepatitis C en la predicción de la respuesta a la terapia antiviral”. PhD Student. Pontificia Universidad Católica de Chile. Supervisor: Profs. Marcelo López Lastra and Alejandro Soza Ried |
| 2011-2014 | “Instituto Milenio de Inmunología e Inmunoterapia” P09/016-F IMII PhD Student. Pontificia Universidad Católica de Chile. Supervisor: Profs. Marcelo López Lastra |
| 2013-2017 | FONDECYT 1130357 “Hepatitis C virus exploits the hepatic lipid pathways: Role of |

NPC1L1 in HCV infection”.
Biochemist. Pontificia Universidad Católica de Chile.
Supervisor: Profs. Dr. Alejandro Soza Ried

- 2014-2016 **“Instituto Milenio de Inmunología e Inmunoterapia” P09/016-F IMII**
Postdoc. Pontificia Universidad Católica de Chile.
Supervisor: Profs. Marcelo López Lastra
- 2016-2018 **PIA CONICYT ACT 1408 “Patogénesis Molecular de Virus Emergentes”.**
Postdoc in Molecular Virology.
- 2016-2020 **FONDECYT 1161197 “Viral quasispecies, oral host immune and constitutive factors in Andes virus infected cases and exposed subjects: Role in infection and transmission”.**
Co-investigator. Pontificia Universidad Católica de Chile.
- 2018-2021 **FONDECYT INICIO 11180167:** Molecular and clinical markers in Andes virus infected cases: role of the genomic background of the host for the prediction of susceptibility to infection and disease development.
Principal Investigator. Pontificia Universidad Católica de Chile
- 2021-2025 **FONDECYT 1211825 “New Predictors of ANDV person-to-person transmission: when a household contact becomes an index case”.**
Co-investigator. Pontificia Universidad Católica de Chile.
- 2023-up to date **FONDECYT REGULAR 1230718:** “Elucidating the genetic diversity of *Andes Orthohantavirus*: impact of nonsynonymous single nucleotide variations on viral entry, gene expression, and innate immune evasion”.
Principal Investigator. Pontificia Universidad Católica de Chile.
- 2023-up to date **Consortio Tecnológico CORFO en Biomedicina.** Proyecto P6: “Diagnóstico Molecular para el pronóstico del Síndrome Cardiopulmonar por Hantavirus”.
Co-Director P6. BMRC y Pontificia Universidad Católica de Chile.
- 2024-2025 **Fondo Semilla Interdisciplinario de Investigación Medicina – Una Salud.**
“Identificación de compuestos antivirales para inhibir el proceso de entrada del Hantavirus Andes”.
Principal Investigator. Pontificia Universidad Católica de Chile.
- 2026-up to date **Avanza UC 2025.** “Bridging machine intelligence and virology: Preclinical *ex vivo* validation of AI-predicted Andes Hantavirus inhibitors””.
Principal Investigator. Pontificia Universidad Católica de Chile.

C. HONORS AND AWARDS (in chronological order)

- 2007 **Fellowship** for attendance to international congress. “VI Encuentro Latinoamericano y del Caribe de Biotecnología Agropecuaria REDBIO/FAO”. Facultad de Química y Biología. Universidad de Santiago de Chile.
- 2008 **Fellowship** for attendance to national congress. “LI Reunión Anual de la Sociedad de Biología de Chile”. Sociedad de Biología de Chile.
- 2009 **CONICYT Doctoral Fellowship**. Chilean Government.
- 2009- 2014 **Scholarship** “Becas de PosgradoVRID”. Vicerrectoría de Investigación y Desarrollo. Universidad de Santiago de Chile.
- 2011 **CONICYT doctoral fellowship**: “Apoyo a la realización de tesis doctoral, convocatoria 2011”. Chilean Government.
- 2011 **CONICYT doctoral fellowship** for attendance to national congresses. “XXXIV Reunión anual Sociedad de Bioquímica Biología Molecular de Chile. Valdivia, Chile”. Chilean Government.
- 2011 Fermelo-Sociedad de Bioquímica y Biología Molecular de Chile Award. **Best Oral Presentation**.
- 2012 **BECAS CHILE doctoral fellowship**: “Becas de Pasantía Doctoral en el extranjero, convocatoria 2012”. Chilean Government.
- 2013 **CONICYT doctoral fellowship** for attendance to international Congress. “XII PABMB Congress”. Puerto Varas, Chile”. Chilean Government.
- 2015 Sociedad Chilena de Microbiología Award. **Best Oral Presentation**.
- 2015 American Society for Microbiology Award. **Best Scientific Work**.
- 2016 **Best publication of the year** in the Annual meeting of Pediatrics Department. Pontificia Universidad Católica de Chile.
- 2016 **Cover of the journal Nucleic Acids Research**, with the paper entitled “Loop III of the HCV IRES is essential for the structural rearrangement of the 40S-HCV IRES complex”. Nucl Acid Res, Feb 18;44(3).
- 2022 American Society for Microbiology: Clinical Virology symposium “**Dr. Mario Escobar Award**”.
- 2022 Sociedad Chilena de Infectología. XXVI SOCHINF Congress”. **Best Scientific Work of the year**.

D. AWARDED PROJECTS

- 2015 **PME “Contagia Ciencia Chile”**. Iniciativa científica milenio (ICM). **Co-director**.
- 2016 **Postdoctoral Position**. Programa PIA - Anillo 1408. “Patología Molecular de Virus Emergentes”
- 2016 **FONDECYT REGULAR 1161197**: “Viral quasispecies, oral host immune and constitutive

factors in Andes virus infected cases and exposed subjects: Role in infection and transmission”.
Co-investigator. Pontificia Universidad Católica de Chile.

- 2018 **FONDECYT INICIO 11180167:** Molecular and clinical markers in Andes virus infected cases: role of the genomic background of the host for the prediction of susceptibility to infection and disease development.
Principal Investigator. Pontificia Universidad Católica de Chile
- 2021 **FONDECYT REGULAR 1211825** “New Predictors of ANDV person-to-person transmission: when a household contact becomes an index case”.
Co-investigator. Pontificia Universidad Católica de Chile.
- 2023 **FONDECYT REGULAR 1230718:** “Elucidating the genetic diversity of *Andes Orthohantavirus*: impact of nonsynonymous single nucleotide variations on viral entry, gene expression, and innate immune evasion”.
Principal Investigator. Pontificia Universidad Católica de Chile
- 2023 **Consorcio Tecnológico CORFO en Biomedicina.** Proyecto P6: “Diagnóstico Molecular para el pronóstico del Síndrome Cardiopulmonar por Hantavirus”.
Co-Director P6. BMRC y Pontificia Universidad Católica de Chile.
- 2024 **Fondo Semilla Interdisciplinario de Investigación Medicina – Una Salud.** “Identificación de compuestos antivirales para inhibir el proceso de entrada del Hantavirus Andes”.
Principal Investigator. Pontificia Universidad Católica de Chile.
- 2025 **Avanza UC 2025.** “Bridging machine intelligence and virology: Preclinical *ex vivo* validation of AI-predicted Andes Hantavirus inhibitors””.
Principal Investigator. Pontificia Universidad Católica de Chile.

E. PEER-REVIEWED (ISI) PUBLICATIONS

- 2008 Yañez J, González R, **Angulo J**, Vidal R, Santos J, Martínez V. Characterization of new microsatellite markers derived from sequence databases for the emu (*Dromaius novaehollandiae*). **Mol Ecol Res** 8, 1442-1444. <https://doi.org/10.1111/j.1755-0998.2008.02315.x> (IF 2021-2022: 8.678).
- 2013 **Angulo J**, Pino K, Pavez C, Biel F, Labbé P, Miquel JF, Soza A, López-Lastra M. Genetic variations in host IL28B links to the detection of peripheral blood mononuclear cells associated hepatitis C virus RNA in chronically infected patients. **Journal of Viral Hepatitis** 20 (4), 263-272. <https://doi.org/10.1111/jvh.12076> (IF 2022-2023: 3.517)
- 2015 Morales M, Flores C, Pino K, **Angulo J**, López-Lastra M, Castro-Rodríguez JA. Urinary

leukotriene and Bcl I polymorphism of glucocorticoid receptor gene in preschoolers with recurrent wheezing and high risk of asthma. **Allergol Immunopathol**. DOI: [10.1016/j.aller.2015.02.003](https://doi.org/10.1016/j.aller.2015.02.003). (IF 2022-2023: 2.094).

- 2015 Einisman H, Reyes ML, **Angulo J**, Cerda J, López-Lastra M, Castro-Rodriguez JA. Vitamin D levels and vitamin D receptor gene polymorphisms in asthmatic children: a case- control study. **Pediatr. Allergy Immunol**. Sep; 26(6): 545-50. <https://doi.org/10.1111/pai.12409> (IF 2022-2023: 5.464).
- 2015 **Angulo J**, Pino K, Echeverría-Chagas N, Marco C, Martínez-Valdebenito C, Galeno H, Villagra E, Vera L, Lagos N, Becerra N, Mora J, Bermúdez A, Cárcamo M, Díaz J, Miquel JF, Ferrés M, and López-Lastra M. (2015). Single nucleotide polymorphisms in IL28B, but not in TNF-alpha are associated with the severity of the disease caused by Andes virus. **Clin Infect Dis**. Dec 15;61(12):e62-9. <https://doi.org/10.1093/cid/civ830> (IF 2022-2023: 20.999).
- 2016 **Angulo J**, Ulryck N, Deforges J, Chamond N, Lopez-Lastra M, Masquida B and Sargueil B. (2016). Loop III of the HCV IRES is essential for the structural rearrangement of the 40S-HCV IRES complex. **Nucl Acid Res**, Feb 18;44(3): 1309-25. <https://doi.org/10.1093/nar/gkv1325> (IF 2022-2023: 19.16).
- 2016 Cáceres CJ*, Contreras N*, **Angulo J***, Pino-Ajenjo C, Vera-Otarola J, Llorian M, Ameer M, Lisboa F, Pino K, Lowy F, Barría M, Sargueil B, and Lopez-Lastra M. Polypyrimidine tract-binding protein binds to the 5'untranslated region of the mouse mammary tumor virus mRNA and stimulates cap-independent translation initiation. **FEBS J**. Mar 12. <https://doi.org/10.1111/febs.13708> (IF 2022-2023: 5.622).
- 2016 Cáceres CJ, **Angulo J**, Contreras N, Pino K, Vera-Otarola J, López-Lastra M. Targeting deoxyhypusine hydroxylase activity impairs cap-independent translation initiation driven by the 5'untranslated region of the HIV-1, HTLV-1, and MMTV mRNAs. **Antiviral Research**, Oct;134:192-206. <https://doi.org/10.1016/j.antiviral.2016.09.006> (IF 2022-2023: 10.103).
- 2016 Monroy-Bravo H, **Angulo J**, Pino K, Labbé P, López-Lastra M, Soza A. Effect of ezetimibe in HCV viral load after liver transplantation. **Ann Hepatol** Sep-Oct; 15(5):803-5. DOI: [10.5604/16652681.1212626](https://doi.org/10.5604/16652681.1212626) (IF 2022-2023: 3.388).
- 2017 **Angulo J**, Martínez-Valdebenito C, Marco C, Galeno H, Villagra E, Vera L, Lagos N, Becerra N, Mora J, Bermúdez A, Díaz J, Ferrés M, López-Lastra M. Serum levels of interleukin-6 are linked to the severity of the disease caused by Andes Virus. **PLoS Negl Trop Dis**. Jul 14;11(7):e0005757. <https://doi.org/10.1371/journal.pntd.0005757> (IF 2022-2023: 4.781).
- 2018 Echeverría N, Chiodi D, López P, Sanchez Ciceron A, **Angulo J**, López-Lastra M, Silvera P, Canavesi A, Bianchi C, Colistro V, Cristina J, Hernandez N, Moreno P. IL28B gene polymorphism rs12979860, but not rs8099917, contributes to the occurrence of chronic HCV infection in Uruguayan Patients. **Virology** Mar 2;15(1):40. <https://doi.org/10.1186/s12985-018-0946-2>. (IF 2022-2023: 5.916).

- 2017 Monrroy H, **Angulo J**, Pino K, Labbé P, Miquel JF, López-Lastra M, Soza A. Detection of high biliary and fecal viral loads in patients with chronic hepatitis C virus infection. **Gastroenterol Hepatol** May;40(5):339-347. DOI: [10.1016/j.gastrohep.2017.01.004](https://doi.org/10.1016/j.gastrohep.2017.01.004) (IF 2022-2023: 0.885).
- 2018 Cáceres J, **Angulo J**, Lowy F, Contreras N, Walters B, Olivares E, Allouche D, Merviel A, Pino K, Sargueil B, Thompson S, López-Lastra M. Non-canonical translation initiation of spliced mRNA encoding the human T-cell leukemia virus type 1 basic leucine zipper protein. **Nucl Acid Res.** Sep 12. <https://doi.org/10.1093/nar/gky802> (IF 2022-2023: 19.16).
- 2019 Martínez-Valdebenito C, **Angulo J**, Le Corre N, Vial C, Miquel JF, Cerda J, López-Lastra M, Ferrés M, Mertz G, Vial P. Single nucleotide variant at the alphaVbeta3 integrin associated to Andes virus infection susceptibility. **Viruses** Feb 20; 11(2). pii: E169. doi: 10.3390/v11020169. (IF 2022-2023: 5.818).
- 2020 Astudillo P, **Angulo J**, Pino K, Perez S, Ferrés M, López-Lastra M. Correlation between female sex, IL28B genotype, and the clinical severity of bronchiolitis in pediatric patients. **Pediatr res.** Mar;87(4):785-795. doi: 10.1038/s41390-019-0623-1. (IF 2022-2023: 3.953).
- 2020 Vera-Otarola J, Solis L, Lowy F, Olguín V, **Angulo J**, Pino K, Tischler ND, Otth C, Padula P, López-Lastra M. The Andes Orthohantavirus NSs Protein Antagonizes the Type I Interferon Response by Inhibiting MAVS Signaling. **J Virol.** 2020 Jun 16;94(13):e00454-20. doi: 10.1128/JVI.00454-20. (IF 2022-2023: 6.549).
- 2020 Ferrés M, Martínez-Valdebenito C, **Angulo J**, Henríquez C, Vera-Otárola J, Vergara MJ, Pérez J, Fernández J, Sotomayor V, Valdés MF, González-Candia D, Tischler ND, Vial C, Vial P, Mertz G, Le Corre N. Mother-to-child transmission of Andes Virus through breast milk, Chile. **Emerg Infect Dis.** 2020 Aug;26(8):1885-1888. doi: 10.3201/eid2608.200204. (IF 2022-2023: 16.126).
- 2020 Abarca K, Martínez-Valdebenito C, **Angulo J**, Jiang J, Farris CM, Richards A, Acosta-Jamett G, Weitzel T. Molecular Description of a novel Orientia Species causing Scrub Typhus in Chile. **Emerg Infect Dis.** 2020 Sep;26(9):2148-2156. doi: 10.3201/eid2609.200918. (IF 2022-2023: 16.126).
- 2020 Barrera A, Ramos H, Vera-Otárola J, Fernández-García L, **Angulo J**, Olguín V, Pino K, Mouland A, López-Lastra M. Post-translational modifications of hnRNP A1 differentially modulate retroviral IRES-mediated translation initiation. **Nucleic Acids Res.** 2020 Sep 22;gkaa765. doi: 10.1093/nar/gkaa765. Online ahead of print. (IF 2022-2023: 19.16).
- 2020 Martínez-Valdebenito C, Andaur C, **Angulo J**, Henríquez C, Ferrés M, Le Corre N. Characterization of oral Immunity in Cases and Close Household Contact Exposed to Andes Orthohantavirus (ANDV). **Front Cell Infect Microbiol.** 2020 Nov 3;10:557273. doi: 10.3389/fcimb.2020.557273. (IF 2022-2023: 6.073).

- 2021 Fernández-García L, **Angulo J**, Ramos H, Barrera A, Pino K, Vera-Otarola J, López-Lastra M. The internal ribosome entry site of Dengue virus mRNA is active when cap-dependent translation initiation is inhibited. **J Virol**. 2020 Dec 9;95(5):e01998-20. doi: 10.1128/JVI.01998-20. (IF 2022-2023: 6.549).
- 2021 Vera-Otarola J, Castillo-Vargas E, **Angulo J**, Barriga F, Batlle E, Lopez-Lastra M. The viral nucleocapsid protein and the human RNA-binding protein Mex3A promote translation of the Andes orthohantavirus small mRNA. **PLoS Pathog**. 2021. 17(9): e1009931. <https://doi.org/10.1371/journal.ppat.1009931>. (IF 2022-2023: 7.464).
- 2022 **Angulo J**, Martinez-Valdebenito C, Pardo-Roa C, Almonacid LI, Fuentes-Luppichini E, Contreras AM, Maldonado C, Le Corre N, Melo F, Medina RA, Ferrés M. Assesment of Mutations Associated with Genomic Variants of SARS-CoV-2: RT-qPCR as a Rapid and Affordable Tool to Monitoring Known Circulating Variants in Chile, 2021. **Front Med**. 2022 Feb 25;9:841073. <https://doi.org/10.3389/fmed.2022.841073>. (IF 2022-2023: 5.058).
- 2022 Avila-Smirnow D, Céspedes P, Reyes F, **Angulo J**, Cavagnaro A, Wegner A. Neuromuscular complications of severe COVID-19 in paediatric patients: Medium-term follow-up. **Neuromuscul Disord**. 2022. 32(6):486-492. <https://doi.org/10.1016/j.nmd.2022.04.001>. (IF 2022-2023: 4.296).
- 2023 Acevedo ML, Gaete-Argel A, Alonso-Palomares L, de Oca MM, Bustamante A, Gaggero A, Paredes F, Cortes CP, Pantano S, Martínez-Valdebenito C, **Angulo J**, Le Corre N, Ferrés M, Navarrete MA, Valiente-Echeverría F, Soto-Rifo R. Differential neutralizing antibody responses elicited by CoronaVac and BNT162b2 against SARS-CoV-2 Lambda in Chile. **Nat Microbiol**. 2022. 7(4):524-529. <https://doi.org/10.1038/s41564-022-01154-4>. (IF 2022-2023: 30.964).
- 2023 **Angulo J**, Cáceres CJ, Contreras N, Fernández-García L, Chamond N, Ameer M, Sargueil B, López-Lastra M. Polypyrimidine-Tract-Binding Protein isoforms differentially regulate the Hepatitis C virus Internal Ribosome Entry Site. 2023. **Viruses** 2023, 15(1), 8. <https://doi.org/10.3390/v15010008>. (IF 2022-2023: 5.818).
- 2023 Sauré D, Neira I, Goic M, O’Ryan M, Torres, JP, Bruhn A, Ferrés M, **Angulo J**, Vera M, Basso L. Infection with SARS-CoV-2 variant Gamma (P.1) in Chile increased ICU admission risk three to five-fold. 2023. **Plos One**. 2023 Mar 24;18(3):e0283085. doi: 10.1371/journal.pone.0283085. (IF 2022-2023: 3.752).
- 2024 Ferrés M, Martínez-Valdebenito C, Henriquez C, Marco C, **Angulo J**, Barrera A, Palma C, Barriga G, Cuiza A, Ferreira L, Rioseco ML, Calvo M, Fritz R, Bravo S, Bruhn A, Graf, J, Llancaqueo A, Rivera G, Cerda C, Tischler N, Valdivieso F, Vial P, Mertz G, Vial C, Le Corre N. Viral Shedding and viraemia of Andes virus during acute hantavirus infection: a prospective study. 2024. **Lancet Infect. Dis**. April 3. [https://doi.org/10.1016/S1473-3099\(24\)00142-7](https://doi.org/10.1016/S1473-3099(24)00142-7).

- 2024 **Fernandez-García L***, **Angulo J***, López-Lastra M. The Polypyrimidine Tract-Binding Protein is a transacting factor for the Dengue Virus Internal Ribosome Entry Site. **Viruses**. 2024 Nov;16(11):1757. doi: 10.3390/v16111757. (IF 2022-2023: 5.818)
2024. Barrera A, Martínez-Valdebenito C, **Angulo J**, Palma C, Hormazabal J, Vial C, Aguilera X, Castillo-Torres P, Pardo-Roa C, Balcells M, Nervi B, Le Corre N, Ferrés M. SARS-CoV-2 infectivity and antigenic evasion: spotlight on isolated Omicron sub-lineages. *Front Med*, 28 August 2024. Volume 11 – 2024. <https://doi.org/10.3389/fmed.2024.1414331>.
- 2025 Barrera A, Ramos H, Fuentes-Luppichini E, Martínez-Valdebenito, Pradenas J, Rogers C, Palma C, Campillo C, Navarrete M, Le Corre N, **Angulo J* and Marcela Ferrés***. 2025. New Andes Virus Isolate haplotype obtained during propeptive close contacts follow-up of an Hantavirus Cardiopulmonary Syndrome fatal case, Chile. *Current Research in Microbiol Sciences*, 9 Sept 2025, 100472. <https://doi.org/10.1016/j.crmicr.2025.100472>.

F. SCIENTIFIC MEETINGS PRESENTATIONS

2007. **Angulo J**, Vidal R. Encuentro Latinoamericano y del Caribe de Biotecnología Agropecuaria REDBIO/FAO. Association Genetics in *Salmo salar* complex traits. VI Viña del Mar, Chile. Oral session.
- 2007 **Angulo J**, Ávila C, Vidal R. DNA Pooling y PCR Alelo Específico para evaluar asociaciones de Polimorfismos Genéticos en Fenotipos Complejos. Reunión Anual de la sociedad Genética de Chile. Concepción, Chile. Oral session.
- 2008 **Angulo J**, Vidal R. XXV Congreso Nacional de Estudiantes de Bioquímica. Búsqueda y validación de Polimorfismos de sustitución simple (SNPs) en genes candidatos relacionados con la respuesta inmune en una población chilena de Salmón del Atlántico (*Salmo salar*). Concepción, Chile. Oral session.
- 2008 **Angulo J**, Vidal R. LI Reunión Anual de la Sociedad de Biología de Chile. Búsqueda y Validación de Polimorfismos de Sustitución Simple para el estudio de la resistencia a enfermedades en Salmón del Atlántico (*Salmo salar*). Pucón, Chile. (Panel presentation).
- 2011 **Angulo J**, Pino K, Biel F, Soza A, López-Lastra M. XXXIV Reunión anual de la Sociedad de Bioquímica y Biología Molecular de Chile. Genetic association between host IL28B genotype and extrahepatic HCV infection. Valdivia, Chile. Oral session.
- 2011 Einisman H, Reyes M, López-Lastra M, **Angulo J**, Caussade M, Moya A, Cerda J, Castro-Rodriguez J. Annual Congress of European Respiratory Society. Possible association between vitamin D receptor FokI and treatment response in asthmatic children. Amsterdam, Holland. (Panel presentation).
- 2012 **Angulo J**, Pino K, Biel F, Soza A, López-Lastra M. WORKSHOP on Human RNA Viruses. Genetic variation in host IL28B predicts extrahepatic HCV infection. Instituto Leloir, Buenos Aires, Argentina. (Panel presentation).
- 2012 **Angulo J**, Pino K, Biel F, Soza A, López-Lastra M. American Society for Virology. Genetic variation in host IL28B predicts extrahepatic HCV infection. Madison, USA. (Panel presentation).

- 2013 Echeverría-Chagas N, Fischer S, Boschi S, Uriarte R, **Angulo J**, López-Lastra M, Moratorio G, Cristina J, Moreno P. Viral Hepatitis Congress. Analysis of genetic determinants associated with therapy response against Hepatitis C Virus: First study of IL28B polymorphism in Uruguayan patients. Frankfurt, Germany. (Panel presentation).
- 2013 **Angulo J**, Deforges J, Chamond N, Ulryck N, López-Lastra M. and Sargueil B. XII PABMB Congress. The hepatitis C virus (HCV) IRES Domain III participates in the recruitment and positioning of the eukaryotic Ribosome. Puerto Varas, Chile. (Panel presentation).
- 2014 López-Lastra M *, **Angulo J***, Pino K, Echeverría-Chagas N, Marco C, Martínez-Valdebenito C, Galeno H, Villagra E, Vera L, Lagos N, Becerra N, Mora J, Bermúdez A, Cárcamo M, Díaz J, Ferrés M. 33rd Annual Meeting of the American Society for Virology. IFN- λ Polymorphisms link with the severity of Andes virus associated pathogenesis. Fort Collins, Colorado, USA. Oral session.
- 2015 Monrroy H, **Angulo J**, Pino K, Miquel JF, Benítez C, Arrese M, Barrera F, Norero B, Wolff R, Labbé P, Lopez-Lastra M, Soza A. 50th The International Liver Congress. EASL. Pilot Study of Ezetimibe for chronic Hepatitis C infection: Effect of treatment in plasma, bile and stool viral load in humans. Vienna, Austria. (Panel Presentation).
- 2015 **Angulo J**, Pino K, Echeverría-Chagas N, Marco C, Martínez-Valdebenito C, Galeno H, Villagra E, Vera L, Lagos N, Becerra N, Mora J, Bermúdez A, Cárcamo M, Díaz J, Miquel JF, Ferrés M and López-Lastra M. XI congreso Argentino de Virología, II Latinoamericano de Virología, IV Simposio Argentino de virología clínica, II Simposio Argentino de Virología Veterinaria. Polimorfismos genéticos del hospedero se asocian con la severidad de la patología inducida por el virus Andes. Bueno Aires, Argentina. (Panel Presentation).
- 2015 **Angulo J**, Deforges J, Chamond N, Ulryck N, López-Lastra M and Sargueil B. XI congreso Argentino de Virología, II Latinoamericano de Virología, IV Simposio Argentino de virología clínica, II Simposio Argentino de Virología Veterinaria. El subdominio III d del IRES del virus del virus de la hepatitis C une y participa en el remodelamiento de la subunidad ribosomal 40S eucarionte. Bueno Aires, Argentina. (Panel Presentation).
- 2015 **Angulo J**, Monrroy H, Pino K, Benítez C, Arrese M, Barrera F, Norero B, Labbé P, Lopez-Lastra M, Soza A. XXXVI Congreso Chileno de Microbiología. Detection of the Hepatitis C virus RNA in bile and stools from infected patients: Possible implications for the viral life cycle. La Serena, Chile. (Panel presentation).
- 2015 **Angulo J**, Pino K, Echeverría-Chagas N, Marco C, Martínez-Valdebenito C, Galeno H, Villagra E, Vera L, Lagos N, Becerra N, Mora J, Bermúdez A, Cárcamo M, Díaz J, Miquel JF, Ferrés M and López-Lastra M. XXXVI Congreso Chileno de Microbiología. Genetic polymorphism of the host link with the severity of Andes Virus induced disease. La Serena, Chile. Oral session.
- 2016 **Angulo J**, Ulryck N, Deforges J, Chamond N, Lopez-Lastra M, Masquida B and Sargueil B. XXXIX Reunión anual Sociedad de Bioquímica y Biología Molecular de Chile. LOOP III d of the HCV IRES is essential for the structural rearrangement of the 40S-HCV IRES complex. Puerto Varas, Chile. New Members Session.
- 2017 **Angulo J**, Martínez-Valdebenito C, Marco C, Galeno H, Villagra E, Vera L, Lagos N, Becerra N, Mora J, Bermúdez A, Cárcamo M, Díaz J, Ferrés M and López-Lastra M. XL Reunión anual Sociedad de Bioquímica y Biología Molecular de Chile. Serum levels of Interleukin-6 are linked to the severity of the disease caused by Andes Virus. Puerto Varas, Chile. Oral session.

- 2018 Fernández-García L, **Angulo J**, Barrera A, Pino K, López-Lastra M. XLI Reunión anual Sociedad de Bioquímica y Biología Molecular de Chile. Polypyrimidine tract-binding protein isoforms differentially impact on Dengue virus mRNA translation. Iquique, Chile. Oral session.
- 2019 Fernández-García L, **Angulo J**, Barrera A, Pino K, López-Lastra M. EMBO Workshop: Protein Synthesis and Translational Control. Non-canonical cap-independent translation of the Dengue virus mRNA. Heidelberg, Germany. (Panel presentation).
- 2019 Barrera A, Ramos H, Vera-Otárola J, Fernández-García L, **Angulo J**, Olguín V, Pino K, Moulard A, López-Lastra M. EMBO Workshop: Protein Synthesis and Translational Control. Post-translational modifications of hnRNP A1 differentially modulate retroviral IRES-mediated translation initiation. Heidelberg, Germany. (Panel presentation).
- 2021 **Angulo J**, Martínez-Valdebenito C, Pardo-Roa C, Almonacid L, Le-Corre N, Fuentes-Lupiccini E, Contreras A, Melo F, Medina RA y Ferrés M. XXXVII Congreso Chileno de Infectología. Pesquisa de mutaciones asociadas a variantes del SARS-CoV-2: Validación de ensayos rápidos de RT-qPCR para monitorear variantes de preocupación e interés. Datos de Chile, 2021. Santiago, Chile 2021. (Panel presentation).
- 2021 **Angulo J**, Vera-Otárola J, Contreras A, Maldonado C, Palma C, Leyton B, Osses C, Peñaloza B, Rojas MP, Ferrés M. XXXVII Congreso Chileno de Infectología. Pesquisa de infección por SARS-CoV-2 a través de pruebas de detección de antígenos como técnica de diagnóstico rápido en sujetos sintomáticos y asintomáticos. Santiago, Chile 2021. (Oral presentation).
- 2022 **Angulo J**, Pino K, Mendonça D, Martínez-Valdebenito C, López-Lastra M, and Ferrés M. Clinical Virology Symposium. American Society for Microbiology. New molecular predictors of severity in Andes Orthohantavirus induced disease. West Palm Beach, USA. 2022. (Panel presentation).
- 2022 **Angulo J**, Pino K, Mendonça D, Martínez-Valdebenito C, López-Lastra M, and Ferrés M. XXXVII Congreso Chileno de Infectología. New molecular predictors of severity in Andes Orthohantavirus induced disease. Santiago, Chile 2022. (Oral presentation).
- 2024 Fernández-García L, **Angulo J**, López-Lastra M. Cold Spring Harbor meeting: Translational Control. Polypyrimidine tract-binding protein isoforms promote *Dengue virus* IRES activity. Cold Spring Harbor Laboratory, New York, USA. 2024. (Panel presentation).
- 2024 Ramos H, Schüller A, Vera-Otárola J and **Angulo J**. XLVII Reunión anual Sociedad de Bioquímica y Biología Molecular de Chile. Impact of Non-Synonymous SNVs in the ORF of Nucleocapsid protein on the Gene Expression of *Orthohantavirus Andesense* (ANDV). La Serena, Chile (Panel presentation).
- 2024 Barrera A, Ramos H, Fuentes-Lupichini E, Martínez-Valdebenito C, Pradenas J, Rogers C, Campillo C, Le Corre N, **Angulo J*** and Ferrés M. XXXIX Congreso de la Sociedad Chilena de Infectología 2024. Nuevo Aislado del virus Andes obtenido durante seguimiento prospectivo de contactos cercanos de un caso fatal de Síndrome Cardiopulmonar por Hantavirus (panel Presentation).
- 2024 Martínez-Valdebenito C, Barrera A, **Angulo J**, Henríquez C, Pradenas J, Le Corre N, Ugalde J, Ferrés M. XXXIX Congreso de la Sociedad Chilena de Infectología 2024. Descripción del microbioma en pacientes infectados con Andes hantavirus en etapa aguda y convaleciente y comparación con contactos sanos cercanos expuesto. (panel Presentation).
- 2025 Ramos H, Fuentes-Lupichini E, Vera-Otárola J, Schüller A, and **Angulo J**. XLVIII Reunión anual Sociedad de Bioquímica y Biología Molecular de Chile. Phylogenetic, Structural, and Functional Insights into the NSs Protein of the Orthohantavirus andesense (ANDV). La Serena, Chile (Oral presentation).

G. SYMPOSIUM AND WORKSHOPS PRESENTATIONS

- 2012 3RD ICgeb Workshop on Human RNA Viruses. Instituto Leloir. “Genetic variation in host IL28B predicts extrahepatic HCV infection”. Buenos Aires, Argentina.
- 2016 International Symposium in Virology. University of Andrés Bello. “LOOP IIIId of the HCV IRES is essential for the structural rearrangement of the eukaryotic 40S-HCV IRES complex”. Santiago, Chile.
- 2016 International Symposium in Virology. PIA CONICYT ACT 1408. “Single Nucleotide Polymorphisms of the host link with the susceptibility to infection and the severity of Andes virus induced disease”. Valparaiso, Chile.
- 2017 Symposium: “Meet the next generation of new Chilean virologist”. XXXIX Chilean congress of Microbiology. “Clinical and Molecular predictors of severity in Andes Hantavirus Induced disease”. La Serena, Chile.
- 2020 Symposium: “Conociendo a los virus en tiempos de pandemia: el caso de SARS-CoV-2”. Diplomado en Actualización en Ciencias Biomédicas. Universidad Católica del Norte.
- 2025 Seminarios en la FCB. “De la biología molecular a la salud pública: Investigación aplicada en patógenos virales”. Viernes 23 de Mayo, 2025. Auditorio Abate Molina. Pontificia Universidad Católica de Chile.

H. TRAINING OF STUDENTS

Supervised Undergraduate Theses or dissertations

- 2011 **Cecilia Carvacho Formas**. Medicine Student. Internship in Laboratory of Molecular Virology, Pontificia Universidad Católica de Chile.
- 2019-2021 **Dafne Silva Furtado**. Master student. Thesis in Laboratory of Molecular Virology. Pontificia Universidad Católica de Chile.
- 2023- up to date **Hade Ramos**. PhD Student. Research Unit 2 and Doctoral thesis. Doctorate in Biological Sciences, Mention Molecular Genetics and Microbiology.
- 2024-up to date **Mary Díaz**. Biotechnology Engineering student. Universidad de Antofagasta, Chile.

- 2024-up to date **Constanza Diaz Gavidia Ph.D.** Pontificia Universidad Católica de Chile. Beca Interna de Postdoctorado Escuela de Medicina, 2024.
- 2025-up to date **Vicente Valdés.** Biochemistry student. BIO296. Pontificia Universidad Católica de Chile
- 2025-up to date **Carlos Lillo.** Biochemistry student. BIO295A. Pontificia Universidad Católica de Chile
- 2025-up to date **Fernando Morales Andrade.** Biochemistry student. BIO295A. Pontificia Universidad Católica de Chile
- 2025-up to date **Almendra Castillo.** PhD Student. Research Unit 2 and Doctoral thesis. Doctorate in Biological Sciences, Mention Molecular Genetics and Microbiology.

I. Supervised Thesis

- 2024-up to date **Patricio Astudillo.** PhD Student. Doctorado Ciencias Médicas, Pontificia Universidad Católica de Chile

J. TEACHING EXPERIENCE

- 2008 Molecular Methodological Course: Molecular Ecology: Single Nucleotide Polymorphism Unit. Universidad de Santiago de Chile
- 2010-2014 BIO145C Microbiology and Immunology Course. Molecular Virology Unit. Pontificia Universidad Católica de Chile.
- 2010–2012 BIO149E Microbiology and Clinical Infectology Course. Hepatitis Viruses Unit. Pontificia Universidad Católica de Chile.
- 2013-2018 Cellular and Molecular Methodological Course: *In vitro* Transcription and Translation Unit. Pontificia Universidad Católica de Chile.
- 2013 –up to date MED301O Microbiology for odontologist. Hepatitis B and C Unit. Pontificia Universidad Católica de Chile.
- 2014-2019 Molecular Virology course. Hepatitis C unit. Microbiology Doctoral Program. Universidad de Santiago de Chile and Universidad de Chile.
- 2014-up to date Molecular Virology course. Flavivirus, Hepatitis B, C, E. Medical Sciences Doctoral

Program. Pontificia Universidad Católica de Chile.

- 2014-up to date BIO4413 Molecular Virology course. Flavivirus, Hepatitis B, C, E unit. Molecular Genetic and Microbiology Doctoral Program. Pontificia Universidad Católica de Chile.
- 2015-2016 Virology Course BIO397. **Course Coordinator**. Universidad Andrés Bello, Chile.
- 2015-2016 Cellular and Molecular Virology. Postgraduate in Virology Program., ICBM, Facultad de Medicina Universidad de Chile.
- 2016 Biology of RibonucleicAcids. Postgraduate in Cellular and Molecular Biology Program. Universidad de Chile.
- 2015-2018 Genetics course. GENT02. **Course Coordinator**. Universidad Bernardo O'higgins. Chile.
- 2017- 2020 BIO239M Molecular Biology of the cell. Medical school. Pontificia Universidad Católica de Chile.
- 2020 Molecular Virology course. Postgraduate in Biomedical Sciences. Universidad Católica del Norte. Chile.
- 2022-2024 Human Genetics course. **Course Coordinator**. Universidad Finis Terrae. Chile.
- 2023-2024 Basis Science course: "Fundamentos Integrados en Ciencia para la Odontología". **Course Coordinator**. Universidad Finis Terrae. Chile.
- 2024-up to date MED110A Integrated Medical Sciences I course. Pontificia Universidad Católica de Chile. Investigation methodology unit. Medicine. Pontificia Universidad Católica de Chile.
- 2025 MED855 Innovative Strategies in Health course. **Course Coordinator**. Medical School. Pontificia Universidad Católica de Chile.
- 2025 BIO4423 Molecular Genetics and Microbiology. **Course Coordinator**. Postdoctoral program. Biological Sciences. Pontificia Universidad Católica de Chile.
- 2025 BIO288C Molecular Genetics. RNAs and Protein synthesis unit. Biological Sciences Faculty. Pontificia Universidad Católica de Chile.
- 2025 BIO151E-2 Biology of Microorganisms. **Course Coordinator**. Biological Sciences Faculty. Pontificia Universidad Católica de Chile.

K. ACADEMIC ADMINISTRATION EXPERIENCE

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| 2022-2024 | Basic Sciences line coordinator. Facultad de Odontología. Universidad Finis Terrae. Chile. |
| 2022- 2024 | Human Biology line Manager. Facultad de Odontología. Universidad Finis Terrae. Chile. |
| 2025 | Member of the Doctoral Program Committee in Biological Sciences, Molecular Genetics and Microbiology Track. Pontificia Universidad Católica de Chile. |
| 2024 | External Reviewer of PhD Program in Biochemistry, National Accreditation Commission (CNA) |

L. SCIENTIFIC SOCIETIES MEMBERSHIP

Member of the Biochemistry and Molecular Biology Society of Chile from September 2016.

M. LABORATORY EXPERIENCE

Vast experience in the study of virus-host relationship and host factors that impact on the outcome of viruses induced disease (HCV, RSV, Flu, ANDV). Experience in the regulation of translation initiation by alternative initiation mechanisms and in the regulation of translational activity of some viral IRESes (HCV-HIV-1, MMTV, among others) by cellular proteins. Experience in the test of small molecules that inhibit de protein synthesis by HCV in culture cells. I have experience in the following techniques: DNA cloning, genomic DNA, RNA (total and cytoplasmic) extraction and purification, genotyping of molecular markers (SNP, SSR, RAPD, microsatellites), PCR, Real time-PCR, RT-qPCR, Next Generation Sequencing, cellular culture, construction of retroviral particles, transfection and transduction in culture cells, *in vitro* transcription and translation, expression and purification of proteins, western blot, sucrose density gradients ultracentrifugation, RNA probing (SHAPE), Filter bindings assays, among others.

N. REFERENCES

1. Marcelo López-Lastra, Ph.D

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Laboratoire de cristallographie et RMN Biologiques

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4. Marcela Ferrés Garrido, MD.

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